Application No.: 10/599,118

Office Action Dated: February 3, 2009

Amendment Dated: July 6, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions and listings, of claims in the

application:

1. (Currently Amended) A machine part for a casting machine for casting an article

from a molten aluminum alloy, comprising:

a steel base;

a Ni alloy layer formed on a surface of the base;

and titanium carbide (TiC) densely bonded in a particulate state only to the surface of the

Ni alloy layer, wherein the TiC particles are partly exposed on the surface of the Ni alloy layer

and repel molten aluminum alloy.

2. (Cancelled)

3. (Previously Presented) The metal material for parts of a casting machine according to

claim 1, wherein the gaps in the TiC particles are filled in with fine ceramic particles comprising

at least one of boron nitride (BN), alumina (Al<sub>2</sub>O<sub>3</sub>) and zirconia (ZrO<sub>2</sub>).

4. (Original) The metal material for parts of a casting machine according to claim 1,

wherein the Ni alloy has the composition of 2.6 to 3.2% of B, 18 to 28% of Mo, 3.6 to 5.2% of Si

and 0.05 to 0.22% of C, with the remainder being Ni and unavoidable impurities.

5. (Currently Amended) A molten aluminum alloy-contact member for a casting

machine for casting an article from a molten aluminum alloy, comprising:

a body, composed of a steel base;

Page 2 of 9

Application No.: 10/599,118

Office Action Dated: February 3, 2009

Amendment Dated: July 6, 2009

and a nickel alloy layer formed on a surface of the base on the side to be in direct contact

with a molten aluminum alloy; and

titanium carbide (TiC) densely bonded in a particulate state only to the surface of the Ni

alloy layer, wherein the TiC particles are partly exposed on the surface of the Ni alloy layer and

repel molten aluminum alloy.

6. (Cancelled)

7. (Previously Presented) The molten aluminum alloy-contact member according to

claim 5, wherein the gaps in the TiC particles are filled in with fine ceramic particles comprising

at least one of boron nitride (BN), alumina (Al<sub>2</sub>O<sub>3</sub>) and zirconia (ZrO<sub>2</sub>).

8. (Original) The molten aluminum alloy-contact member according to claim 5.

wherein the Ni alloy has the composition of 2.6 to 3.2% of B, 18 to 28% of Mo, 3.6 to 5.2% of Si

and 0.05 to 0.22% of C, with the remainder being Ni and unavoidable impurities.

9. (Previously Presented) The molten aluminum alloy-contact member according to any

one of claims 5, 7 or 8, wherein said member is a machine part having a surface to be in direct

contact with a molten aluminum alloy.

10. (Currently Amended) A method for producing a molten aluminum alloy-contact

member for a casting machine for casting an article from a molten aluminum alloy, comprising

the steps of:

forming a Ni alloy layer on a surface of a steel base, thereby forming a body;

burying the body in TiC powder; and

placing the body, together with the TiC powder, in a vacuum heating oven and heating

them under vacuum to a temperature at which a liquid phase generates from the Ni alloy, thereby

Page 3 of 9

Application No.: 10/599,118

Office Action Dated: February 3, 2009

Amendment Dated: July 6, 2009

<u>densely</u> bonding the TiC particles <u>only</u> to the surface of the Ni alloy layer, the TiC particles repelling molten aluminum alloy.

11. (Original) The method for producing a molten aluminum alloy-contact member according to claim 10, wherein after the bonding of the TiC particles to the Ni alloy layer, the member is subjected to a process comprising applying a slurry of a mixture of a binder and a fine ceramic powder comprising at least one of boron nitride (BN), alumina (Al<sub>2</sub>O<sub>3</sub>) and zirconia (ZrO<sub>2</sub>) to the TiC particles, and burning the ceramic powder into the surface of the member.

12. (Original) The method for producing a molten aluminum alloy-contact member according to claim 10, wherein the average particle diameter of the TiC powder is in the range of 10-500 nm.

13. (Original) The method for producing a molten aluminum alloy-contact member according to claim 10, wherein the Ni alloy layer is formed by thermal spraying of a Ni alloy having the composition of 2.6 to 3.2% of B, 18 to 28% of Mo, 3.6 to 5.2% of Si and 0.05 to 0.22% of C, with the remainder being Ni and unavoidable impurities.

14. - 19. (Cancelled)